

REMARKS

The Office Action dated October 8, 2003 has been received and carefully considered. The above amendments and the following remarks are being submitted as a full and complete response to the Office Action.

Concerning the Information Disclosure Statement, the Examiner did not consider the article entitled "Three Dimensional Reconstruction of  $^{99m}\text{Tc}$  Distribution by Using Coded Aperture CT" because the month of publication of the article was not included on the IDS form. From the bottom of the first page of the article, it is seen that the full earliest date of publication was October 12, 2000. An updated IDS form, noting the full date, is attached with this response; acknowledgement and consideration of this citation is respectfully requested.

Concerning the objection to the specification, as the Examiner has correctly indicated, the chemical notations on page 7 require subscripted typing at the indicated locations. A specification amendment has been made above to effect this correction.

Similarly, with respect to the claim objections, the chemical notations in claim 10 require subscripted typing at the indicated locations. Claim 10 has been similarly amended to conform with the amendments to the present specification.

Claim 14 was rejected under 35 U.S.C. § 112, first paragraph, for reciting subject matter that was not adequately described in the specification, as well as for failing to comply with the enablement requirement.

It appears that the Examiner has simply objected to the wording of claim 14. Precisely speaking, the specification does not set forth a means for detecting the observation range. Rather, the specification states that the detection plane (48) associated with the detecting means has an observation range located within the distance  $V=L \cdot (D+Z)/Z$ . Thus, claim 14 has been amended to conform more closely to the language used in the present specification.

Now turning to the cited prior art, claims 1-4, 6, 12 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gourlay (U.S. Patent No. 4,435,838) in view of Barrett et al. (U.S. Patent No. 4,435,838).

As indicated above, claim 1 has been amended to incorporate the full features of claim 5. Specifically, claim 1 has been amended to require that the detecting means comprises a one-dimensional array of detecting elements, for detecting gamma rays emitted from a radioisotope in the examinee.

The Examiner acknowledges that neither Gourlay nor Barrett et al. discloses or suggests use of a one-dimensional array of detecting elements.

Claims 5 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gourlay ('838) and Barrett et al. ('838), taken further in view of Kiri (U.S. Patent No. 4,891,844).

With respect to the features recited in former claim 5 (now incorporated into amended claim 1), the Examiner contends that Kiri teaches, as a conventional measure to reduce costs, that a two-dimensional sensor may be replaced with a scanning one-dimensional sensor.

It is respectfully submitted, however, that Kiri does not provide any motivation to change the two-dimensional sensor array disclosed in Gourlay by a one-dimensional array of detecting elements, as presently claimed.

On the contrary, the passage of the reference highlighted by the Examiner (column 1, lines 9 to 39) does not suggest any advantages to be achieved by replacing the sensor array disclosed by Gourlay with a one-dimensional sensor array. Rather, Kiri discusses only serious disadvantages, including increases in scanning time and lowered efficiency of radiation detection. In other words, Kiri raises a "possible" (i.e., hypothetical) conventional measure, which might be considered to reduce complexity and cost, but quickly dismisses this as a practical measure due to its more serious disadvantages.

Therefore, it is respectfully submitted that a person skilled in the art, reading Kiri, would only have perceived

disadvantages to using a one-dimensional array. Moreover, when the Kiri reference is considered in its entirety, clearly the reference does not propose or suggest using a one-dimensional sensor array at all, but on the contrary, discloses a two-dimensional multi-pixel image receiving plane 3.

Accordingly, since there is no basis by which a person skilled in the art, viewing Kiri, would have been motivated to modify Gourlay, it is respectfully submitted that the features recited in amended claim 1 would not have been obvious.

Claims 7-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gourlay ('838) and Barrett et al. ('838), taken further in view of Worstell (U.S. Patent No. 5,600,144).

Worstell has been cited as allegedly teaching a scintillator for converting the wavelength of gamma rays, and a position-sensitive photomultiplier for detecting light obtained by the scintillator. However, in light of the amendments to claim 1, it is respectfully submitted that claims 7 to 10 are now allowable at least for the same reasons as the independent claim.

Claims 15-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gourlay ('838) and Barrett et al. ('838), taken further in view of Pelizzari et al. (U.S. Patent No. 4,977,505) and Liebig et al. (U.S. Patent No. 5,672,877).

Despite the Examiner's contention that Pelizzari et al. and Liebig et al. discuss "correlating information" from different imaging modalities, it is respectfully submitted that neither of these secondary references provides a clear teaching for reconstructing a three-dimensional image based on gamma rays, displaying the reconstructed three-dimensional image, and supplying an image from another image source, which is superimposed on the reconstructed three-dimensional image.

Even further, in view of the amendments to claim 1, it is respectfully submitted that claims 15 to 20 are also allowable at least for the same reasons as the independent claim.

Claims 1, 3-5, 11, 15, 16 and 20 were rejected based on obviousness-type double patenting, as being provisionally

unpatentable over claims 1, 2, 7-9 and 11 of co-pending application U.S. Serial No. 10/265,412.

With respect to the obviousness-type double patenting rejection, it is respectfully submitted that the claims of U.S. Serial No. 10/265,412 set forth a clearly different structure from the amended claims.

In particular, simply referring to the respective independent claims, claim 1 of U.S. Serial No. 10/265,412 includes no provision for an adjusting means for adjusting the distance from the detecting means to the encoding aperture plate to adjust the position of the encoding aperture plate depending on the depth of an observation position in the examinee, or a processing means for reconstructing a three-dimensional image based on gamma rays emitted from the radioisotope and detected by the detecting means through the encoding aperture plate. The Examiner, therefore, has not correctly identified the actual differences between the claims of the respective application, nor formulated any basis to support his assertion that such differences would have been obvious to a person skilled in the art.

Moreover, since the co-pending application is still pending, the present application can issue as a patent at this time, and should the USPTO later wish to revisit the double patenting issue, it can be resolved during the prosecution of U.S. Serial No. 10/265,412 if necessary.

For the foregoing reasons, it is respectfully submitted that the claimed invention is not anticipated and would not have been obvious to a person skilled in the art at the time the present invention was made, from either of the cited references.

This paper is being submitted together with a request for a one-month extension of time, extending the due date for responding to the Office Action until February 8, 2004. No additional fees are due. Notwithstanding, should it be deemed that fees, or deficiencies in fees, are required in connection with this or any accompanying communication, such amounts may be charged to the Attorney's Deposit Account No. 07-2519.

Respectfully submitted,



Paul A. Guss  
Reg. No. 33,099  
Attorney for Applicants

CS-24-010628.2

775 S. 23rd St. #2  
Arlington, VA 22202  
Tel. 703-486-2710